JORDANS BASEBED

Petrography: The stone was classified as well as sorted, moderately compacted, clast supported Oosparite Limestone. The clasts were predominantly composed of ooliths, but the mollusc shell fragments and quartz were also present. The matrix was composed of sparitic carbonate and some micritic carbonate. There was a moderate abundance of open voidage space. There was some evidence of sedimentary bedding by the preferred alignment of elongate clasts.

Macro Examination (BRE reference: 231038/06/01/117): The stone was off-white in colour and had a fine-grained texture. It effervesced with 10% hydrochloric acid indicating that it contained calsite. The clasts were often too fine to be identified in the macro examination, however there was a low abundance of elongate clasts that were up to 4mm in size that were considered to be mollusc shell fragments. There was some preferred alignment of elongate clasts, possibly denoting sedimentary bedding.

Microscopical Examination (BRE reference: 231039/06/01/117): The Limestone was well sorted, well compacted (evident by concavo-convex contact at clast boundaries), and clasts supported. The clast to matrix ratio was visually estimated at 90:10. There was possibly some evidence of sedimentary bedding by the preferred alignment of elongate clasts.

Clasts: There were ooliths, which are visually estimated to account for 80% of the total stone. The ooliths were spherical in shape and ranged in size from 160 to 600µm, mean 400µm. The ooliths were composed of micritic carbonate and were seeded by sparitic and micritic carbonate, angular quartz (1 to 2%) and very occasional feldspar.

Elongate mollusc shell fragments (bivalves) were visually estimated to account for 10% of the stone. The mollusc shell fragments ranged in size from 300µm to 3mm and were composed of spartic carbonate with a micrite envelope. These showed some preferred orientation possibly denoting sedimentary bedding. Quartz was visually estimated to account for 1 to 2% of stone. It was angular in shape and up to 250µm in size

Matrix: The matrix was visually estimated to account for 10% of the stone. The matrix was predominantly composed of euhedral shaped sparitic carbonate crystals which were present adjacent to open voidage space. Individual sparite crystals were up to 300µm in size. Micritic carbonate was also observed.

Voidage: There was a moderate abundance of open interparticle and intraparticle voidage space observed. The voids were visually estimated to account for 5 to 10% of the stone and they ranged in size from 40 to 500µm. The micritic carbonate present had a moderate capillary porosity.

Composition: The micritic and sparitic carbonate which made up the clastic and matrix components were composed of non-ferroan calsite. There was also 1 to 2% quartz present.

Classification: Based on the description given here this stone would be classified as a well sorted, well compacted, clast supported Oosparite Limestone.